

Work Order ID 58812

Wednesday, May 19, 2010 9:23:32 AM

Page 1.

Item ID: D350-636-013

Accept

Revision ID:

Item Name: Skidtube LH

Start Date: 5/19/2010 Start Qty: 1.00

Required Date: 5/26/2010 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date: 10-5-19

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2750

Rev F

100

0.00



DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy blue file and type labels per PPP D350-636-013 CHG 005

8106/17

HJ FMF 10-8-16

B58812

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

110

0.00



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1- Mark cut line on aft end of D2600-3-Bent using Jig DT 8150. Cut to length as per Dwg D2750. Deburr end

2-Drill pilot holes as per Dwg D2750 sheet 6 (D2750-3 details).Drill using drill Jig DT8150 & DT8864.

3- Mark fwd end for cutting using Drill Jig DT 8150 & DT8864 and cut as per dwg D2750.Deburr.

4- Drill fwd step holes using DT9616. Ensure proper positioning.

5-Drill pilot holes for the blade fitting bolt holes using DT8983. Open to 0.500".

6- locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting.

7-Open up holes for SECTION AW-AW to 0.375" (2 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail T to 0.500" (8 holes per side)

8-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 and open to 0.297"

9-Open up holes of Detail S to 0.297" (total of 2 holes per side)

10-Weld D2744 Cap as per Dwg D2750 and QSI 004.Fill grooves in bend left from bending as per QSI 004

A/R ☐ ☐ Aluminum Rod

M112860 BE 10/05/27

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--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

11-Grind welds flush as per Dwg D2750

12- scribe batch #.

M 10/5/27

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

S 6/6/07

Memo

0.00

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S 6/6/07

Memo

0.00

AD

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Stop

Sequence ID/
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Run HoursDraw
NumberDraw
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QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open up holes section AW-AW 0.500" (4 per side) as per dwg D2750

2- Open holes section AV-AV 0.3125" (4 per side)

3-Open up holes of Detail T and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.

4-Chamfer holes of section AW-AW, AV-AV, T and ground handling. (welding instructions on sheet 10)

5-Deburr and blow out all chips from inside of tube. Prepare tube for welding, remove alodine as required.

6-Bond web D2739 in place as per QSI 015

A/R ☐☐☐ Sikaflex-291batch: H113435 ☐☐☐

exp. date: 10-11-30

7- Weld spacers D3490-1, D3490-5 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 10)

A/R ☐☐☐ Aluminum Rod

batch: M112860

SE 10/6/02

8-Grind welds flush as per Dwg D2750

9-Spot face ground handling holes (total of 4 places per side) as per dwg D2750

) N 0106103

10-Deburr holes

10-5-28

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

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170  QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.00	Siobashy						
180  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00	Siobashy						Pho →
190  HandFinish Hand Finishing	Pressure Wash per QSI005 4.3 Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.	0.00 0.00				AM	10	08	12 (1)

W/O:		WORK ORDER CHANGES					
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Part No: D350-636-013 PAR #: 10-038 Fault Category: Skid tube NCR: Yes No DQA: 100811 Date: 10-06-14
 Resolution: Scrap N/A Disposition: Scrap N/A QA: N/C Closed: 100811 Date: 10/08/14

NCR: 58612		WORK ORDER NON-CONFORMANCE (NCR)						
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10/6/02	#180	Found at inspection that "T-pins" do not pass through the test block fitting. They passed through at inspection.	AS/042	PAR raised to review the drill jig & process to improve hole alignment along the tube.	N/A	/	AS/042	S 10/6/02
		Step #130. R.C. Process slightly off not noticeable in till web in installation	AS/042	Tube saying tube oval from the web was the cause. R.C. Analysis says no!! only a 0.004" oval... not the issue. Tube is scrap, send to PAR: B&C as scrap & don't put any in N/A	N/A	/	AS/042	S 10/6/02
				Tube fit on both OAS & OEM x-tube Assemblies	/			

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Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200 Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum Memo START TIME: 7:15am OVEN TEMPERATURE: 370°F FINISH TIME: 7:45am	0.00 => MU	10108113			XL	Ø		
210 QC Quality Control	QC3- Inspect Part Finish Memo Inspect for foreign object per QSI 024	0.00 0.00				M	10	08	16①
220 HandFinish Hand Finishing	HandFinishing Memo ✓ 1-Install inserts as per dwg D2750	0.00 0.00	10108116			1	Ø		

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Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	HandFinishing	0.00							
	HandFinish								
Hand Finishing	<p>Memo</p> <p>1-Inspect for Foreign Objects</p> <p>2-Spray inside of tube with "LPS-3" batch: <u>N/A</u></p> <p>3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: <u>M1114115</u> EXP DATE: <u>7-1-10</u></p> <p>4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube A/R 55-o-ring lube batch: <u>M114189</u></p> <p>5-Coat all exposed fasteners with "LPS Procyon" batch: <u>M104251</u></p>	0.00							
240	QC5- Inspect part completeness to step on W/O	0.00							
	QC								
Quality Control	<p>Memo</p> <p>8 10/06/16</p>	0.00							

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Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

10/8/17 SF

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8.0608/17

46

270

Packaging

L6E72

0.00



Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-013

REVIEW

10/8/17 SF

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
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DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/08/17 *[Signature]*
MK
10-8-17

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Page 1

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Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured No

110

Each

2.0000

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

2

55462

1

57538

1

Each

33.0000

2

B58903

110
25

DD 10-5-28

B59127 10/8/16

S D3493-1



Washer

Manufactured No

Location

Loc Qty

Loc Code

ST065

33

57825

33

Each

1.0000

1

D2739



350 I Beam

Manufactured No

Location

Loc Qty

Loc Code

LG

1

57948

1

160

Each

28.0000

1

D2744



Cap

Manufactured No

Location

Loc Qty

Loc Code

LG

28

47488

10

51922

18

B58904

DD 10-5-28

1 BE 10/05/27

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Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D3490-1	Manufactured	No	160	Each	25.0000	4
						
Cross Bolt Spacer						
	<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>	
	LG		25			
	57723		25			
D3490-5	Manufactured	No	160	Each	46.0000	4
						
Cross Bolt Spacer						
	<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>	
	LG		46			
	43015		6			
	46490		40			
D2743	Manufactured	No	220	Each	114.0000	8
						
Crossbolt Spacer						
	<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>	
	LG		114			
	50281		10			
	52310		24			
	57953		80			
ALS4-1032-225	Purchased	No	230	Each	7,062.000	38
						
Insert						
	<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>	
	PK011		7062			
	110768		7062			

359228 x4 BE 10/06/02

4 BE 10/06/02

8 BE 10/06/02

38 M 10/08/16

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Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C5A Purchased No 230 Each 453.0000 34
Bolt

Location	Loc Qty	Loc Code
ST350	325	
114330	125	
114523	200	
ST351	128	
113121	10	
114108	45	
114181	73	

1115015 Y34 MU 10108116

AN3C6A Purchased No 230 Each 565.0000 4
BOLT

Location	Loc Qty	Loc Code
ST351	565	
11982	565	

X4 MU 10108116

AN6C44A Purchased No 230 Each 101.0000 4
BOLT

Location	Loc Qty	Loc Code
FG	2	
103964	2	
ST344	99	
111649	2	
114455	47	
114653	50	

1114784 Y4 MU 10108116

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Start Date: 5/19/2010

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Start Qty: 1.00

Required Qty: 1.00

AN8C35A

Purchased No 230 Each 56.0000 1



BOLT

Location Loc Qty Loc Code

FP 6

110847 6

ST346 50

14442 50

AN960C10L

Purchased No 230 Each 0.0000 38



washer

NAS1149C0332R) M115000

AN960C816L

Purchased No 230 Each 106.0000 1



WASHER

Location Loc Qty Loc Code

ST348 106

10584 100

111424 6

D2745

Manufactured No 230 Each 146.0000 8



Bushing

Location Loc Qty Loc Code

ST023 146

52311 69

57914 77

B59112

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Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D3488-041

Manufactured No

230

Each

29.0000

1



Blade Fitting Assembly, LH

Location

Loc Qty

Loc Code

FP

19

56915

19

FP007

10

56052

10

X1 M 10108116

D3492-041

Manufactured No

230

Each

98.0000

8



Plug Assembly

Location

Loc Qty

Loc Code

FP013

98

B59114

57915

38

58180

60

41 M 10106116

D3492-1

Manufactured No

230

Each

58.0000

8



Plug

Location

Loc Qty

Loc Code

FP

58

47658

24

48274

34

5/87A
ME
inf
10-8-17

D3492-5

Manufactured No

230

Each

39.0000

8



Plug

Location

Loc Qty

Loc Code

FP

39

47659

39

X8 M 10108116

* D3492-045 / B51638

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 6

Work Order ID: 58812

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
 IPP rev I 06.03.30 Per rev. D dwg EC
 IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D3535-25	Manufactured	No	230	Each	13.0000	1
Wearshoe						
	<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>		
	FP18		13	B59623		X1 M 10/08/16
	57943		13			
D3536-25	Manufactured	No	230	Each	6.0000	1
Gasket						
	<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>		
	FP12		6	B58826		X1 M 10/08/16
	57944		6	B59625		
D3537-1	Manufactured	No	230	Each	24.0000	3
Wearpad						
	<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>		
	FP		1			X3 M 10/08/16
	55465		1	B60192		
	FP17		23			
	57256		23			
D3631-1	Manufactured	No	230	Each	206.0000	8
Washer						
	<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>		
	ST076		206	B60755		X8 M 10/08/16
	52693		206			

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 7

Work Order ID: 58812

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D3791-1 Manufactured No 230 Each 5.0000 1



Wearplate

Location

Loc Qty

Loc Code

FP17

5

B 59626

56299

5

D3793-1 Manufactured No 230 Each 10.0000 1



Wearshoe

Location

Loc Qty

Loc Code

FP18

10

B 59630

56300

1

57945

9

D3793-3 Manufactured No 230 Each 11.0000 1



Wearshoe

Location

Loc Qty

Loc Code

FP19

11

B 59631

57947

11

D3794-1 Manufactured No 230 Each 32.0000 1



Gasket

Location

Loc Qty

Loc Code

FP010

26

57942

26

FP014

6

57537

6

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Page 8

Work Order ID: 58812

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

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IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

D3794-3 Manufactured No 230 Each 14.0000 1
Gasket

Location

Loc Qty

Loc Code

FPI8

14

1360826

x1 M 10/08/12

56066

14

MS21043-6 Purchased No 230 Each 826.0000 4
NUT

Location

Loc Qty

Loc Code

ST301

826

826

x4 M 10/08/16

102314

MS21083C8 Purchased No 230 Each 41.0000 1
NUT

Location

Loc Qty

Loc Code

ST303

41

113845

11

M 114934

x1 M 10/08/16

114523

30

NAS1611-005 Purchased No 230 Each 309.0000 8
O-RING

Location

Loc Qty

Loc Code

FP002

309

106099

209

114220

100

x8 M 10/08/16

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Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 9

Work Order ID: 58812

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
 IPP rev I 06.03.30 Per rev. D dwg EC
 IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Date: 5/19/2010

Required Date: 5/26/2010

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

306.0000

8



O-RING

PTO =>

Location

Loc Qty

Loc Code

FP

306

110715

100

110915

206

AN8C21A

Purchased

No

260

Each

113.0000

2



BOLT

10/8/10 SP

Location

Loc Qty

Loc Code

ST345

113

111605

23

113558

50

114653

40

AN960C816L

Purchased

No

260

Each

106.0000

1



WASHER

10/8/10 SP

Location

Loc Qty

Loc Code

ST348

106

110584

100

111424

6

D2741

Manufactured

No

260

Each

28.0000

1



Blade, 350 Skidtube

10/8/10 SP

Location

Loc Qty

Loc Code

ST466

28

55905

28

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Page 9

W/O: 58812		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10/08/16	230	Replace NAS1611-010 "O" Rings with D2594-3 / B59358	JA	16/08/16	X8		S 10/08/16

Part No: D350-636-013 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 58812



Parent Item: D350-636-013



Parent Item Name: Skidtube LH

Start Date: 5/19/2010

Required Date: 5/26/2010

Comments: IPP Rev:H 02.09.25 Rearranged procedure steps KJ
 IPP rev I 06.03.30 Per rev. D dwg EC
 IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec

Start Qty: 1.00

Required Qty: 1.00

D3672-1	Manufactured	No	260	Each	1,375.000	4
Phenolic Washer						

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST077	1375	
51674	375	
52505	1000	

D3672-13	Purchased	No	260	Each	894.0000	2
Phenolic Washer						

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST077	894	
54363	894	

MS21083C8	Purchased	No	260	Each	41.0000	1
NUT						

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST303	41	
113845	11	
114523	30	

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 58812

Ref 10-5-19

RELEASED

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS. CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEC 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.07.16		

DART AEROSPACE USA, INC.
PORT HADLOCK, WA

DRAWING NO. **D2750** REV. F
SHEET 1 OF 11
TITLE **350 SKIDTUBE ASSEMBLY** SCALE NTS

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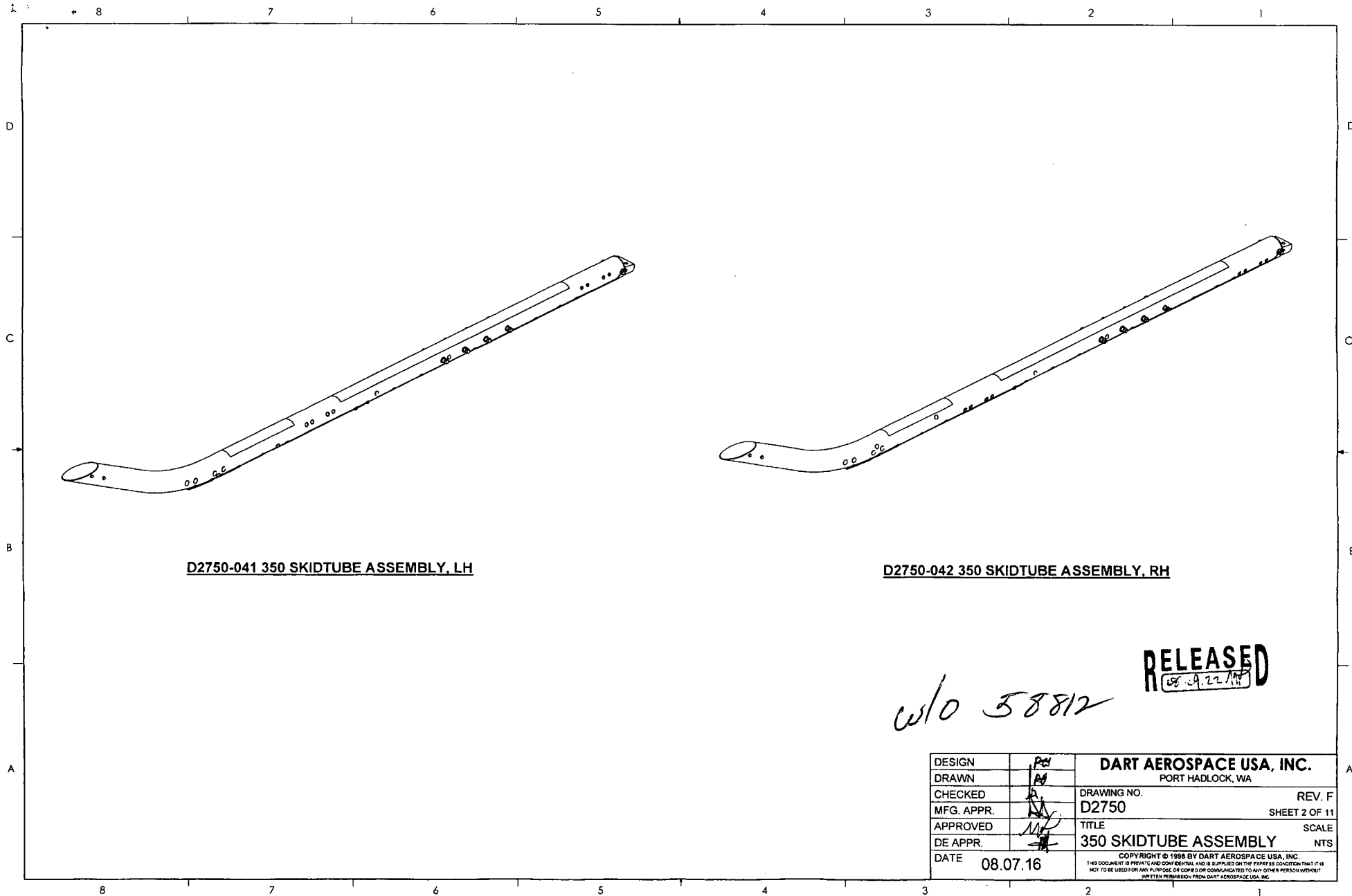
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
18 JUL 1994

w/o 58812

DESIGN	PCW	DART AEROSPACE USA, INC.	
DRAWN	AM	PORT HADLOCK, WA	
CHECKED	AM	DRAWING NO.	REV. F
MFG. APPR.	AM	D2750	SHEET 2 OF 11
APPROVED	AM	TITLE	SCALE
DE APPR.	AM	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

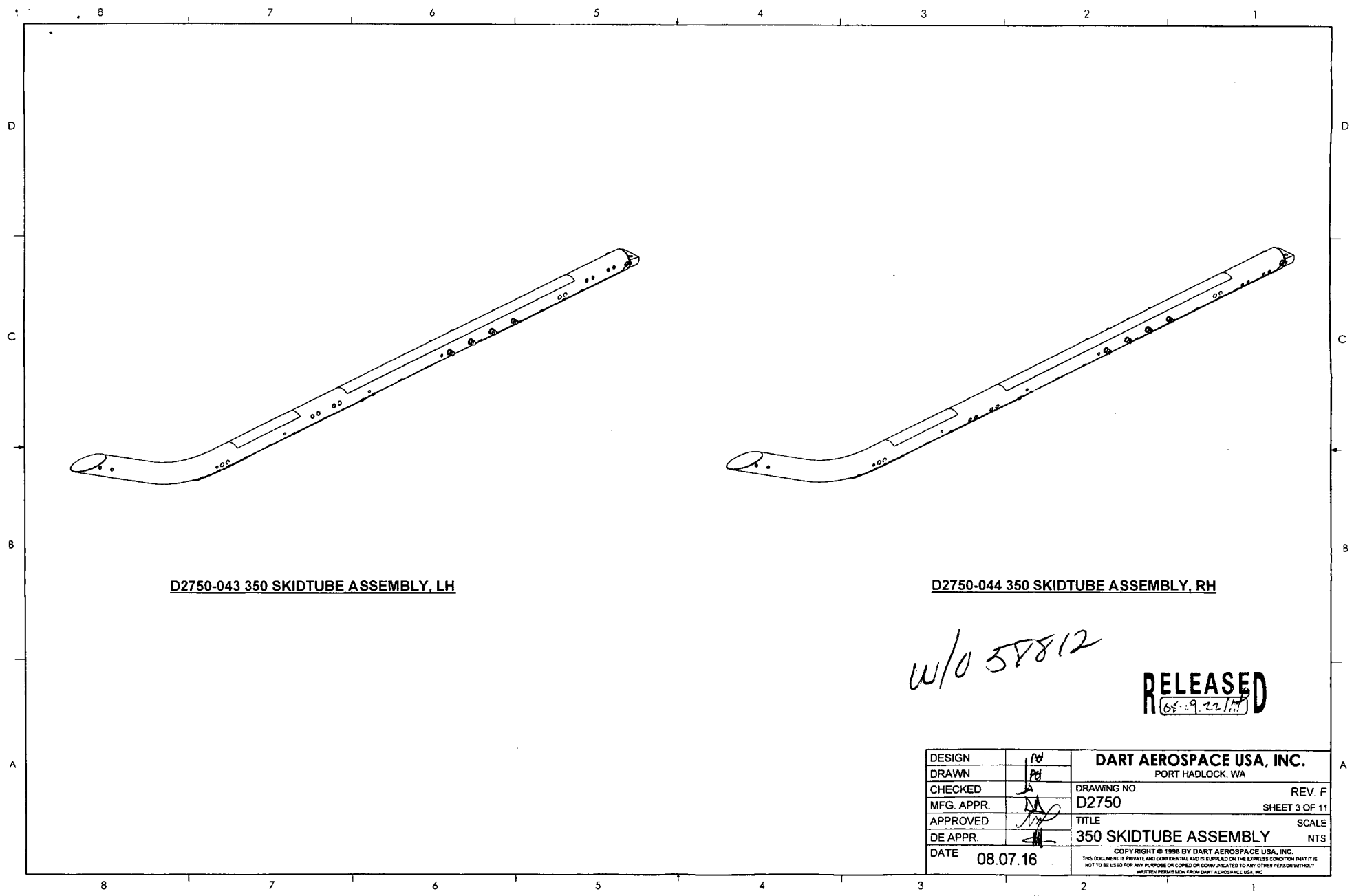
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-043 350 SKIDTUBE ASSEMBLY, LH

D2750-044 350 SKIDTUBE ASSEMBLY, RH

W/O 58812

RELEASED
68-9-22/111

DESIGN		DART AEROSPACE USA, INC.	
DRAWN	PEI	PORT HADLOCK, WA	
CHECKED	PEI	DRAWING NO. D2750	REV. F
MFG. APPR.	NA	SHEET 3 OF 11	
APPROVED	NA	TITLE	SCALE
DE APPR.	NA	350 SKIDTUBE ASSEMBLY	
DATE	08.07.16	NTS	

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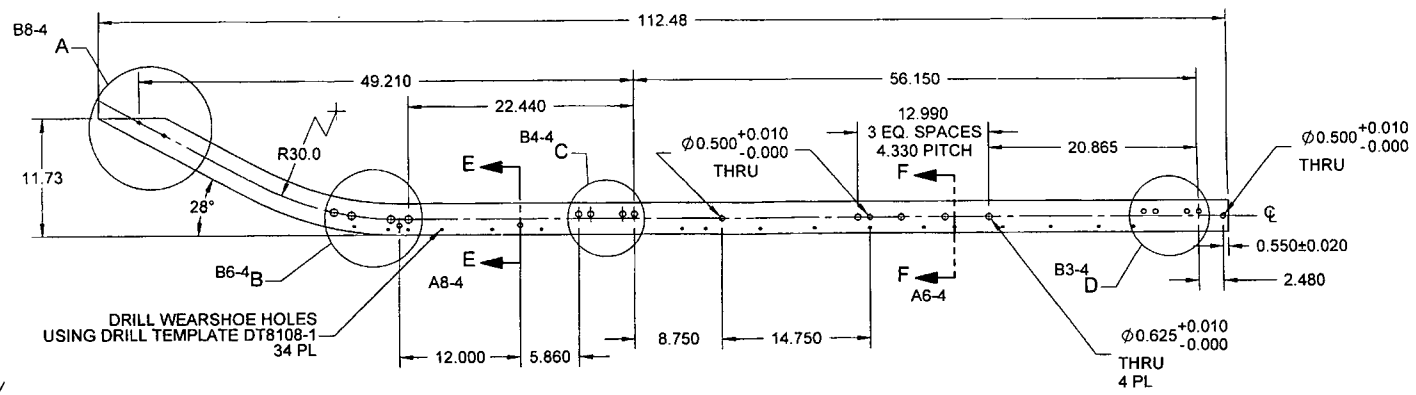
Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

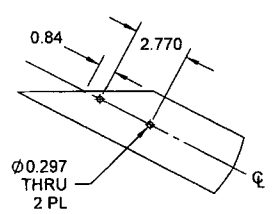
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

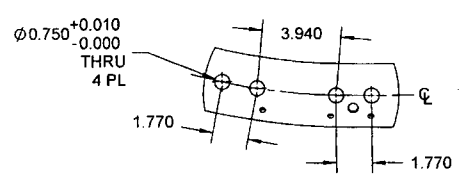
NOTE: Date & initial all entries



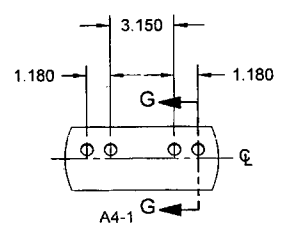
D2750-1 LH SKIDTUBE



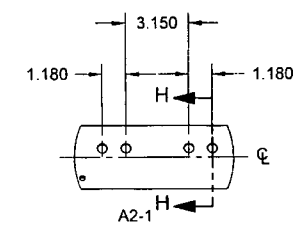
DETAIL A
SCALE 2X



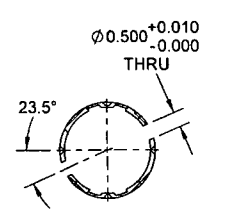
DETAIL B
SCALE 2X



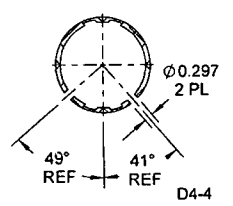
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SCALE 2X



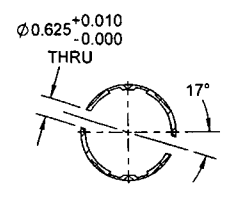
DETAIL D
SCALE 2X



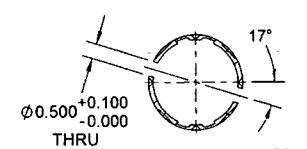
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL







SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

W/O 58812

RELEASED

DESIGN	PA	DART AEROSPACE USA, INC.	
DRAWN	PA	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 4 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1996 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMBINED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

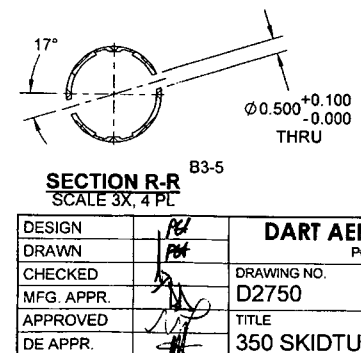
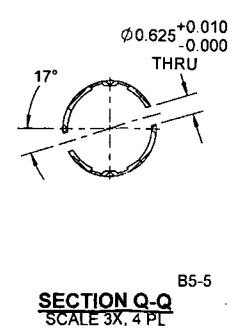
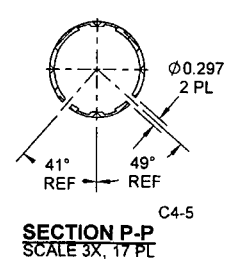
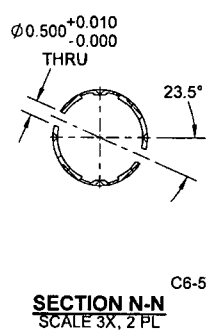
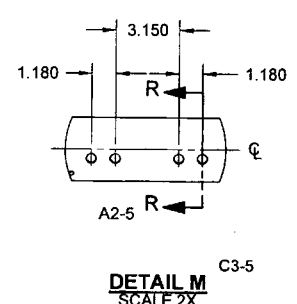
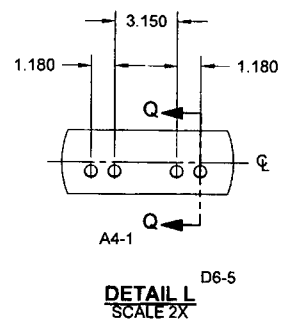
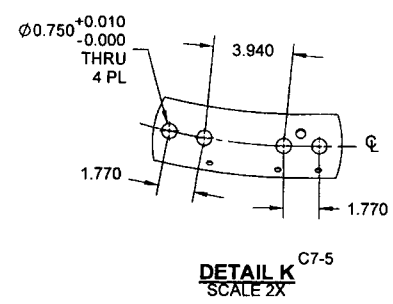
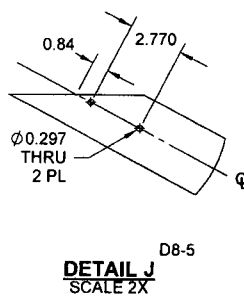
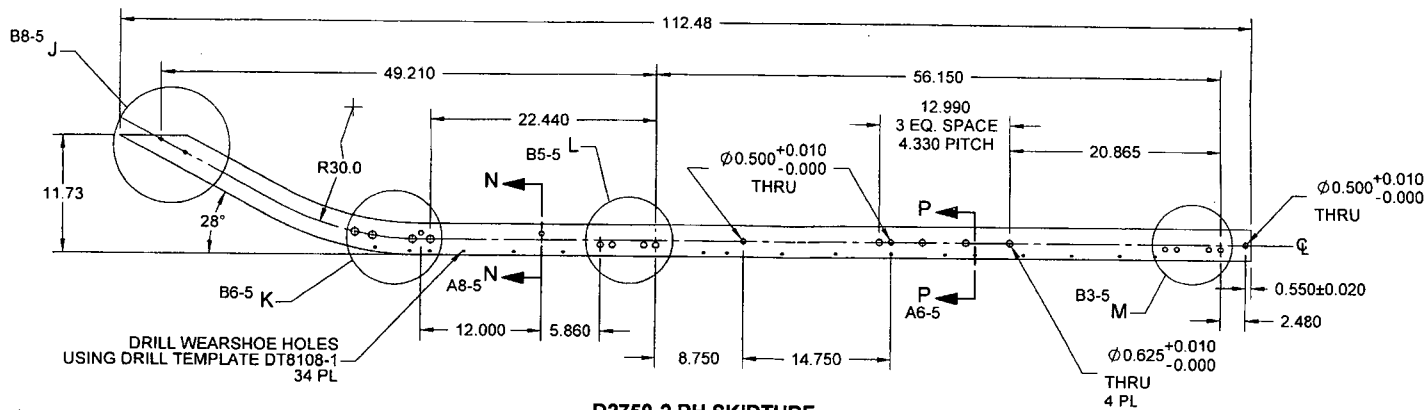
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



w/o 58812

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DESIGN	PA	DART AEROSPACE USA, INC.	
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CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 5 OF 11
APPROVED		TITLE	SCALE
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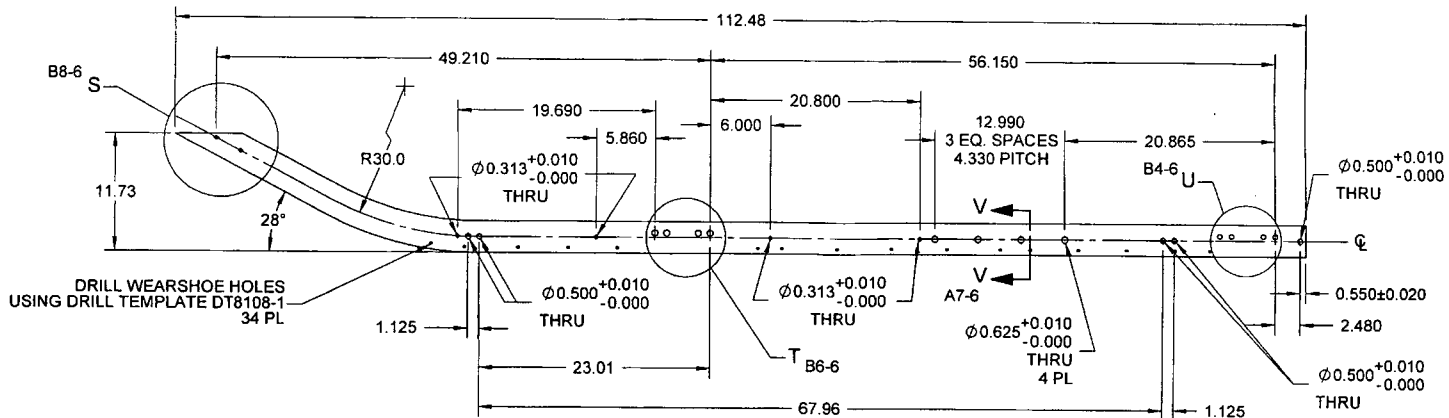
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

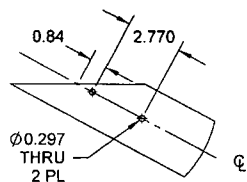
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

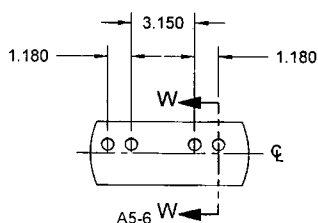
NOTE: Date & initial all entries



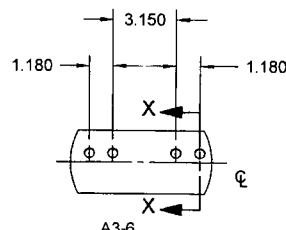
D2750-3 LH SKIDTUBE



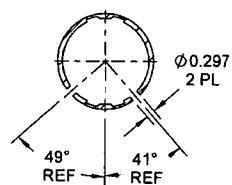
DETAIL S
SCALE 2X



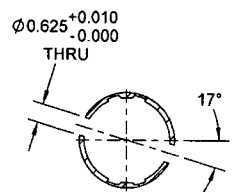
DETAIL T
SCALE 2X



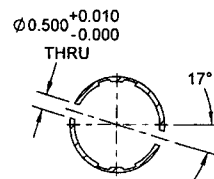
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

W60 58812

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08.07.16

DESIGN		DART AEROSPACE USA, INC.
DRAWN		PORT HADLOCK, WA
CHECKED		DRAWING NO. D2750
MFG. APPR.		REV. F
APPROVED		SHEET 6 OF 11
DE APPR.		TITLE 350 SKIDTUBE ASSEMBLY
DATE	08.07.16	SCALE NTS

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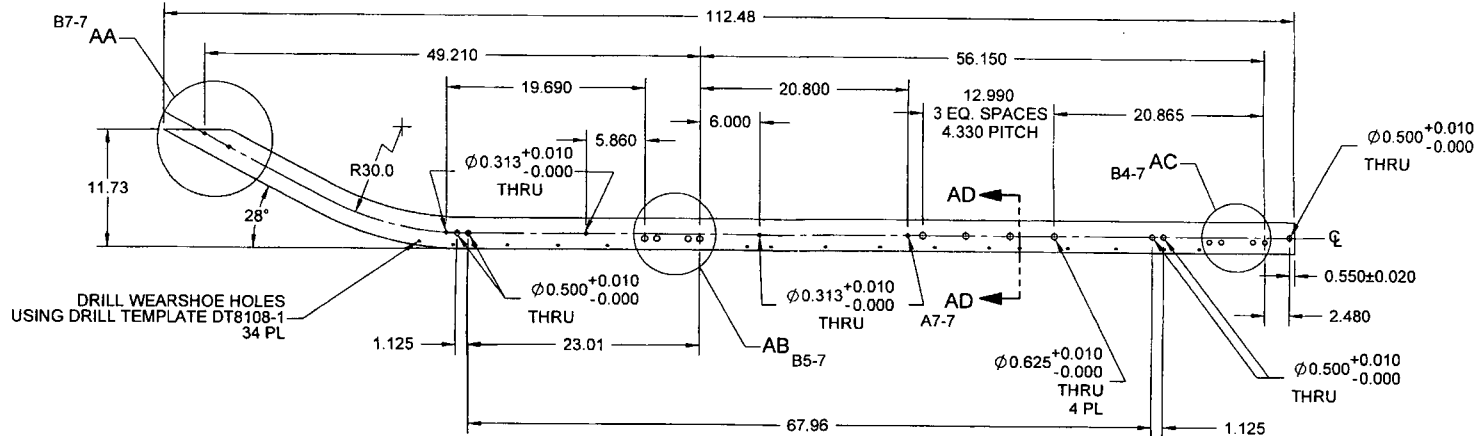
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

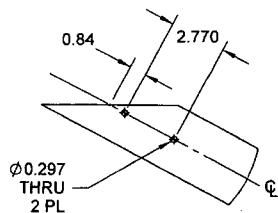
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

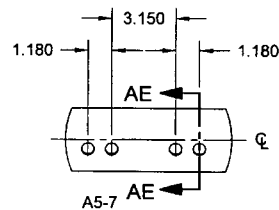
NOTE: Date & initial all entries



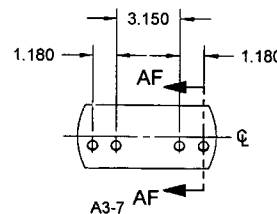
D2750-4 RH SKIDTUBE



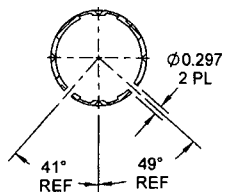
DETAIL AA
SCALE 2X



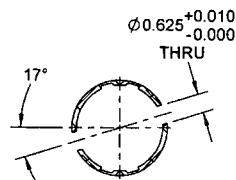
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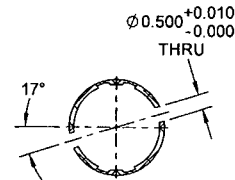
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL









SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

w/058812

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08-09-2016

DESIGN		DART AEROSPACE USA, INC.	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 7 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

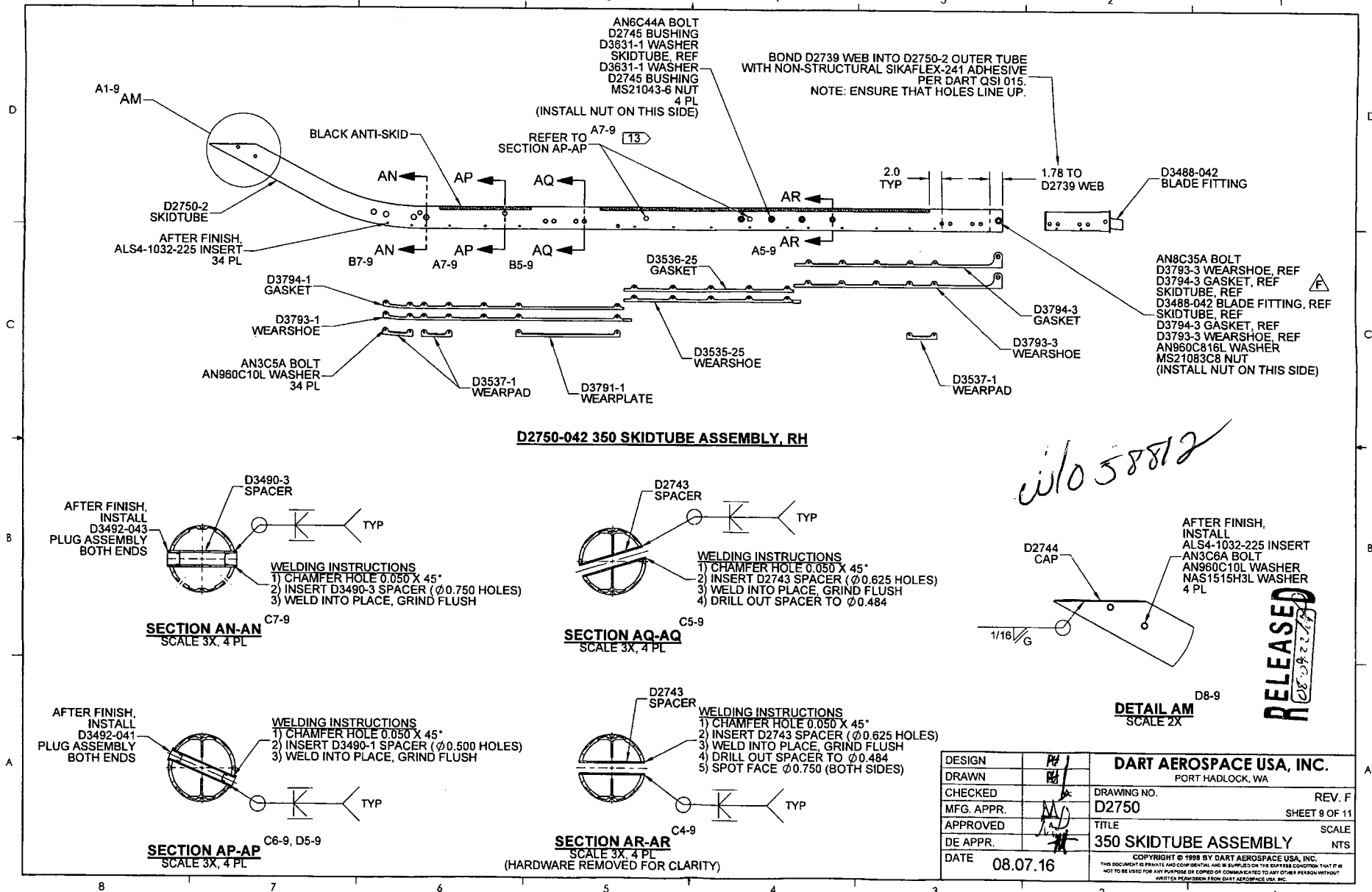
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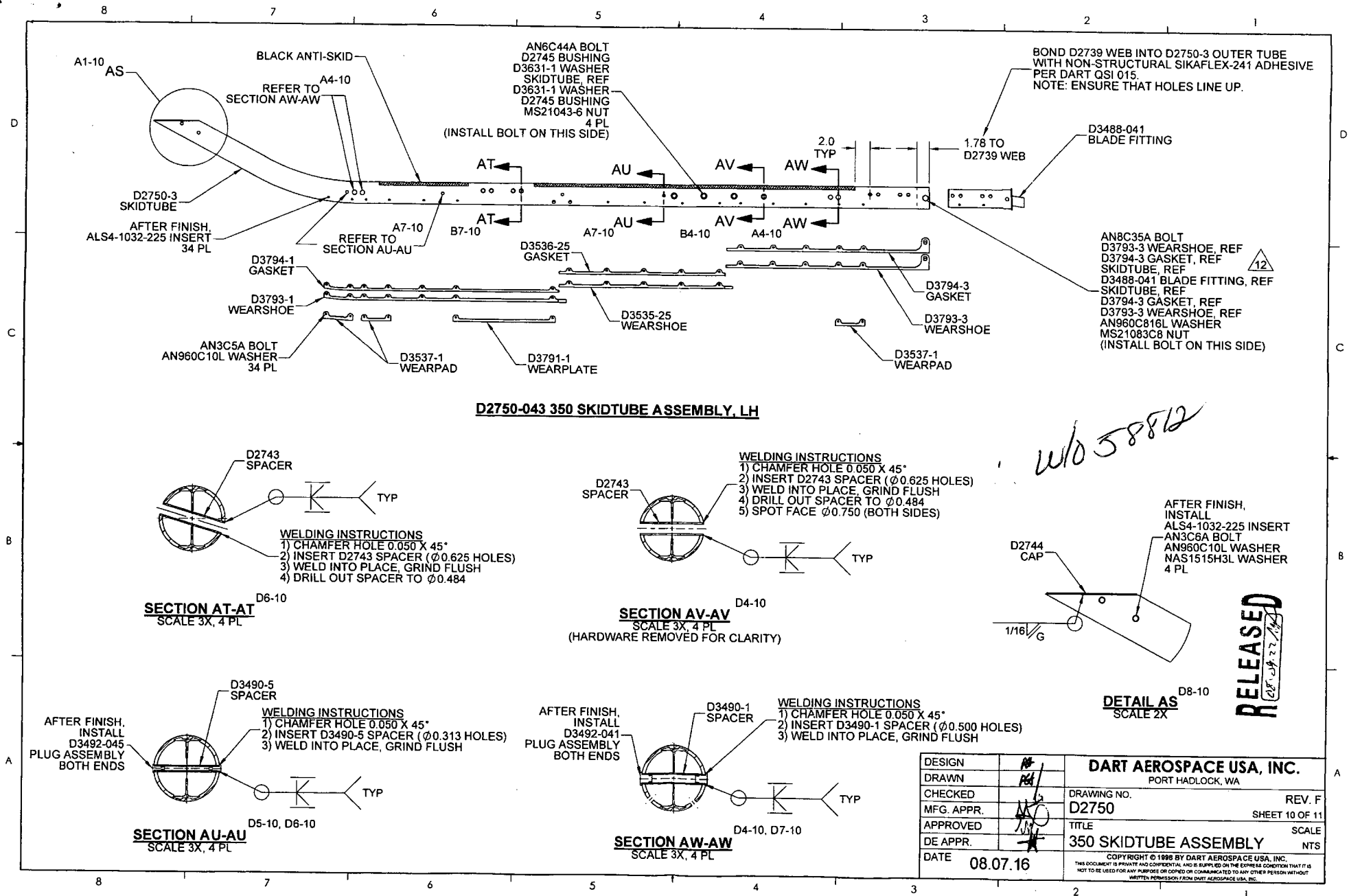
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-043 350 SKIDTUBE ASSEMBLY, LH

SECTION AT-AT
SCALE 3X, 4 PL

SECTION AV-AV
SCALE 3X, 4 PL
(HARDWARE REMOVED FOR CLARITY)

DETAIL AS
SCALE 2X

SECTION AU-AU
SCALE 3X, 4 PL

SECTION AW-AW
SCALE 3X, 4 PL

DESIGN	AS	DART AEROSPACE USA, INC. PORT HADLOCK, WA DRAWING NO. D2750 REV. F SHEET 10 OF 11 TITLE 350 SKIDTUBE ASSEMBLY SCALE NTS COPYRIGHT © 1996 BY DART AEROSPACE USA, INC. <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>
DRAWN	AS	
CHECKED	AS	
MFG. APPR.	AS	
APPROVED	AS	
DE APPR.	AS	
DATE	08.07.16	

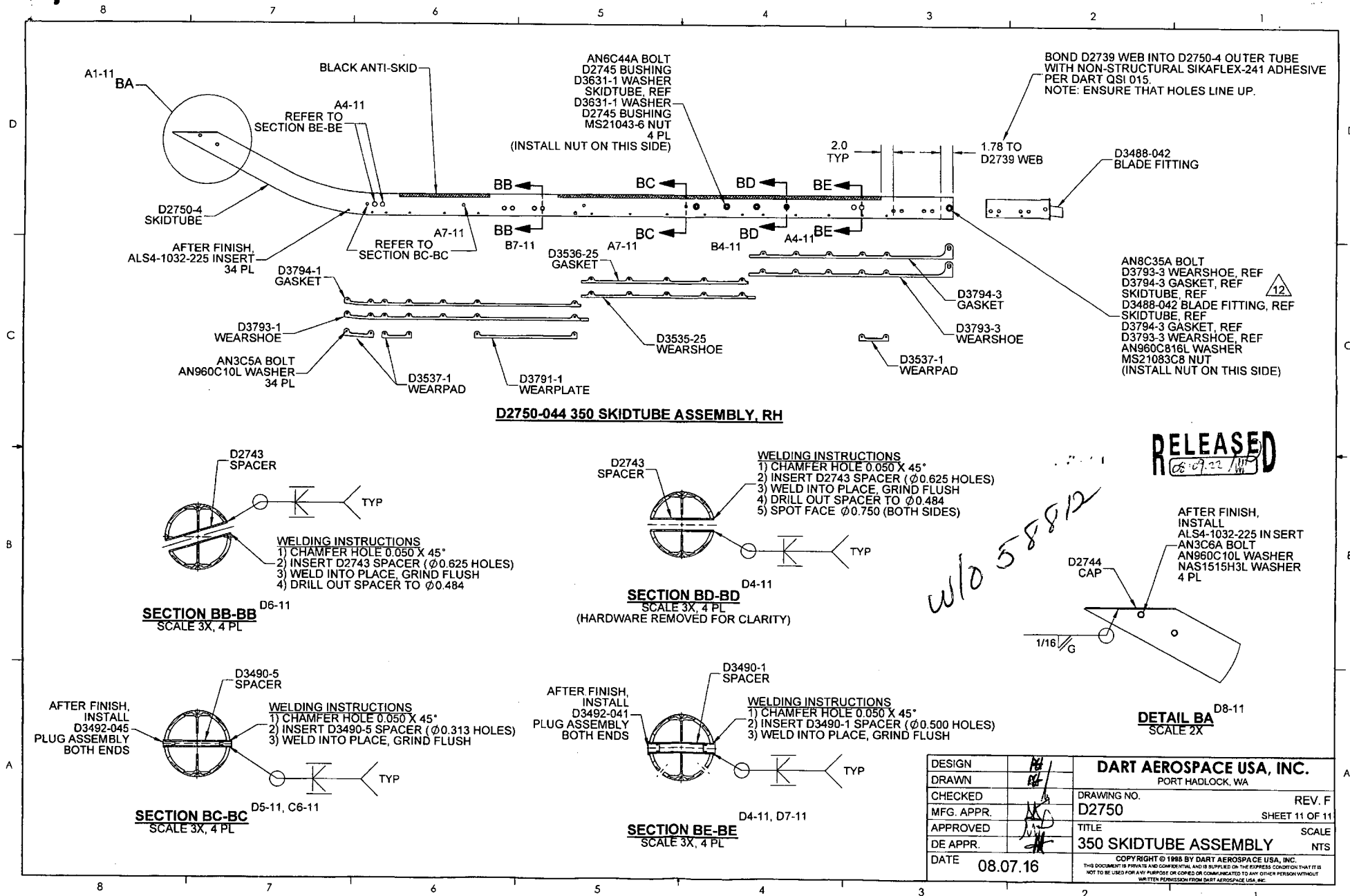
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 234

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 59818
Part number: D350-626-011
Description: 350 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:
Penetration:

pass[☒] fail[]
pass[☒] fail[]

UNACCEPTABLE

Cracks:
Undercut:
Pin holes:
Overlap (cold lap)
Porosity (surface):
Coloration:

pass[☒] fail[]
pass[☒] fail[]
pass[☒] fail[]
pass[☒] fail[]
pass[☒] fail[]
pass[☒] fail[]

Qualifier P. D. A. Date of Test Coupon 10-06-21
Welder Barclay Elliott Date of Test Coupon 10-06-21

The above named individual is qualified in accordance with AWS D17.1.2001 to weld